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10/713,441	11/14/2003	Elliot N. Linzer	03-1918 1496.00351	9611

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EXAMINER

KRASNIC, BERNARD

ART UNIT	PAPER NUMBER
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2624

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/713,441

Applicant(s)

LINZER, ELLIOT N.

Examiner

Bernard Krasnic

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because reference number "304" in Figure 4 points to no specific text box. It is suggested to insert the appropriate text box stating -- Input 720x486, LUMA SAMPLES, THRESHOLD, TH -- where reference number "304" is pointing to as mentioned in page 9, lines 4-5 of the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because of the inclusion of legal phraseology, "said" in line 6. Further, the abstract is not narrative. It consists and has been drafted as one long run-on sentence, much like claim 1, which is improper. The intent of the abstract is to give a concise but brief statement of the disclosure or the invention as a whole consisting of a series of complete sentences forming a single paragraph.

Correction is required. See MPEP § 608.01(b).

4. The disclosure is objected to because of the following informalities:

Page 12, line 16: "330a-330n" should be -- 330a-330d --.

Page 14, line 7: "4242" should be -- 424 --.

Page 14, line 9: "422" should be -- 424 --.

Art Unit: 2609

Appropriate correction is required.

Claim Objections

5. Claims 1, 3, 4, 6-8, 13, 14, 16, 17, and 19-21 are objected to because of the following informalities:

Claim 1, lines 5 and 7 respectively: "of said frames" should be -- frame --.

Claim 1, line 9: "set of parameters" should be -- set of said parameters --.

Claim 1, lines 11 and 13 respectively: "indicating" should be -- indicate --.

Claim 3, lines 5-7 respectively: "first number of columns" should be -- third number of lines -- and "second number of columns" should be -- forth number of lines -- because the claim should be consistent with the language describing "T" and "B".

Claim 4, lines 2, 4, 6, and 8 respectively: "video with no material non-black content" should be -- frame with no material non-black content --.

Claim 6, lines 3, 5, 7, and 9 respectively: "video with no material non-black content" should be -- frame with no material non-black content --.

Claim 7, lines 2, 3, 4, and 5 respectively: "of the difference" should be -- of a difference --.

Claim 7, line 6: "to the threshold" should be -- to the predetermined threshold --.

Claim 8, line 5: "have the same" should be -- have a same --.

Claim 13, line 2: "first detector generates" should be -- first detector circuit generates --.

Art Unit: 2609

Claim 14, lines 1, 2, and 3 respectively: "detector" throughout this claim should be -- detector circuit --.

Claim 16, lines 5 and 7 respectively: "of said frames" should be -- frame --.

Claim 16, line 9: "indicating" should be -- indicate --.

Claim 17, line 4: "indicating" should be -- indicate --.

Claim 19, lines 3 and 4 respectively: "signatures" should be -- signature --.

Claim 20, line 11: "classifying" should be -- classify --.

Claim 21, line 1: "said parameters" should be -- said sets of parameters --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-9, 11, 12, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re Claim 1, line 13: The limitation "predetermined value" is insufficient antecedent basis. It is suggested to be -- predetermined threshold -- as mentioned in lines 10-11 of this claim.

Art Unit: 2609

Claims 2-7 and 9 are dependent upon claim 1.

Re Claim 8, lines 2 and 4 respectively: The limitation "predetermined value" is insufficient antecedent basis. It is suggested to be -- predetermined threshold -- as mentioned in lines 10-11 of claim 1.

Re Claim 8: The limitations "said predetermined value comprises a first threshold" and "said predetermined value comprises a second threshold" renders this claim indefinite because it is unclear how the one value "said predetermined value" could consist of two values "comprises a first threshold value" and "comprises a second threshold value".

Re Claim 11, line 1: The limitation "The method" is insufficient antecedent basis. It is suggested to be -- The apparatus -- as mentioned in line 1 of claim 10.

Re Claim 11, lines 1-2: "said further detector circuit" is insufficient antecedent basis and renders this claim indefinite because it is unclear which detector circuit is being referred to, the first detector circuit in line 2 of claim 10 or the second detector circuit in line 7 of claim 10. It is suggested to be -- said first detector circuit --.

Re Claim 12, lines 1-2: "said detector circuit" is insufficient antecedent basis and renders this claim indefinite because it is unclear which detector circuit is being referred

Art Unit: 2609

to, the first detector circuit in line 2 of claim 10 or the second detector circuit in line 7 of claim 10. It is suggested to be -- said second detector circuit --.

Re Claim 15, lines 1-2: The limitation "said program indication" is insufficient antecedent basis. It is suggested to be -- said transition indication -- as mentioned in line 8 of claim 10.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-6, and 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel (US 2003/0145320 A1) in view of Linzer (US 6,463,102 B1).

Re Claim 1 as understood: Vogel discloses a method for classifying a first video type / commercial and a second video type / television program in a video signal / television signals having a series of frames (see abstract, lines 1-2, paragraph [0031], lines 1-11), comprising the steps of (A) reading a first set of parameters / feature extractor (33)

Art Unit: 2609

defining an active portion of a first of said frames / picture (see Fig. 3, paragraph [0031], lines 1-11); (B) reading a second set of parameters / feature extractor (34) defining an active portion of a second of said frames / delayed picture (this delay could be any time delay and is understood to be a delay of one to a number of frames) (see Fig. 3, paragraph [0031], lines 1-11); (C) comparing said first set of said parameters with said second set of parameters to generate a comparison value / comparator (36) (see Fig. 3, paragraph [0031], lines 1-11, paragraph [0009], paragraphs [0006], [0008] and [0013]); (D) if said comparison value is above a predetermined threshold / preset threshold, indicating the first video type / commercial (see Fig. 3, paragraph [0031], lines 1-11, paragraph [0009]); and (E) if said comparison value is not above said predetermined value, indicating the second video type / television program (if it isn't a commercial, it is just continuing television program).

Re Claim 10: Vogel discloses an apparatus / commercial detector comprising a first detector circuit / feature extractor (33, 34) configured to generate (i) a first set of parameters / feature extractor of first frame (33) defining an active portion of a first frame / picture (see Fig. 3, paragraph [0031], lines 1-11) of a video signal having a series of frames and (ii) a second set of parameters / feature extractor of second frame (34) (the second frame or the delayed picture could be any time delay and is understood to be a delay of one to a number of frames) defining an active portion of a second frame of said video signal; and a second detector circuit / comparator (36) configured to generate a transition indication signal / signal indicating presence of a

Art Unit: 2609

commercial in response to a comparison between (i) said first set of parameters and (ii) said second set of parameters (see Fig. 3, paragraph [0015], this paragraph discloses that Vogel's method may be implemented into a system, paragraph [0031], lines 1-11, paragraph [0009]).

Re Claim 16: Vogel discloses a method / commercial detector for distinguishing between a commercial and a program in a digital video signal (see paragraph [0022] and [0023], television signals sent by satellite, requiring bandwidth, and being transported by modems are typical components of a digital video system) having a series of frames, comprising the steps of (A) determining a first truly active region / feature extractor of first frame (33) of a first of said frames; (B) determining a second truly active region / feature extractor of second frame (34) (the second frame or the delayed picture could be any time delay and is understood to be a delay of one to a number of frames) of a second of said frames; and (C) if said first truly active region is substantially similar / comparator (36) to said second truly active region, indicating a first segment signature / signal indicating presence of a commercial signature (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0020]).

However, Vogel fails to disclose or fairly suggest the active portion or active truly active region for the first and second frames for each of the claims 1, 10, and 16 respectively. Also, Vogel fails to disclose or fairly suggest that the first and second set of parameters are (T, B, L, R) which give the number of lines from the top, bottom, left,

Art Unit: 2609

and right of the nominally active area, and comprise of no material non-black content. Vogel also fails to disclose or fairly suggest that the detector circuit is a 4-set detector.

Linzer, as recited in claims 1, 10, and 16 respectively, discloses the active portion or the truly active region of a frame (see Fig. 5, col. 3, line 24, the black is typically the inactive region or portion of the frame and the white is the active or truly active region or portion of the frame).

Linzer, as recited in claim 3, discloses said first set of parameters comprises a first four set (T, B, L, R), where (i) T represents a first number of lines from a top of a nominally active area, (ii) B represents a second number of lines from a bottom of the nominally active area, (iii) L represents a first number of columns from a left of the nominally active area, and (iv) R represents a second number of columns from a right of the nominally active area (see Fig. 5, col. 3, lines 14-17, L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges).

Linzer, as recited in claim 4, discloses the number of lines T comprises video with no material non-black content; the number of lines B comprises video with no material non-black content; the number of lines L comprises video with no material non-black content; and the number of lines R comprises video with no material non-black content (see Fig. 5, col. 3, lines 14-17, no material non-black content is basically black content and therefore L and R are the number of black columns on each of the left and right edges, T and B are the number of black rows on each of the top and bottom edges).

Art Unit: 2609

As to claim 5, all the limitations are taught by Linzer in the same manner as Linzer taught claim 3 respectively above.

As to claim 6, all the limitations are taught by Linzer in the same manner as Linzer taught claim 4 respectively above.

Therefore, in view of Linzer, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vogel's method and system by including the specified suggestion of what the active portion of a frame is and by replacing Vogel's feature extractor parameters with Linzer's (T,B,L,R) four parameters in order to reduce the complexity and bandwidth of the method and system.

As to claim 2, all the limitations are taught by Vogel in the same manner as Vogel taught claim 1 respectively above.

Re Claim 8 as understood: Vogel discloses (i) said predetermined value / preset threshold comprises a first threshold to determine if the first frame and the second frame are part of an unbroken segment (see paragraph [0031], lines 1-11, paragraph [0009], the preset threshold is the predetermined value or the first threshold and it is used to determine if the first and the second frames are the same using a comparator which tell if it is part of an unbroken segment such as part of a commercial) and (ii) said predetermined value / preset threshold comprises a second threshold to determine if the first frame and the second frame have the same set of parameters (see paragraph [0031], lines 1-11, paragraph [0009], the preset threshold is the predetermined value

Art Unit: 2609

and it may be the same value as the first threshold, resulting in a determination if the first and second frames have the same extracted features using the comparator).

Although Vogel doesn't specifically disclose, as recited in claim 9, said video signal comprises a digital video signal, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature where the video signal is a digital video signal because Vogel's television video signal is described as being received from a satellite, requiring bandwidth, and being transported by modems (see paragraph [0022] and [0023]), which are typical components of a digital video system.

Re Claim 12 as understood: Vogel discloses said detector circuit comprises a segment detector / commercial signature (see paragraph [0009], [0020], the comparator detects and indicates the presence of a commercial using a signature).

Re Claim 13: Vogel discloses said first detector / feature extractor (33, 34) generates said first set of parameters / feature extractor of first frame (33) and said second set of parameters / feature extractor of second frame in response to (i) a threshold signal / bandwidth limit and (ii) one or more samples / reduction of picture (see Fig. 3, paragraph [0031], lines 1-11, the feature extractor extracts a 64 pixel picture by reducing a larger picture by using the samples or pixels of the larger picture, the reduction is done to satisfy the bandwidth limit which is needed).

Re Claim 14: Vogel discloses a controller (i) connected between said first detector and said second detector and (ii) configured to control said first detector and said second detector (the controller is understood to be the connector shown as a line which connects components 33 and 34 to 36 as shown in Fig. 3, it controls the first detector 33 and 34 as well as the second detector 36 by being the means for correspondence of instructions and information basically between the two).

Re Claim 15 as understood: Vogel discloses said program indication signal / signal indicating presence of a commercial indicates a transition between a first program type / commercial and a second program type / television program (see paragraph [0031], lines 1-11, paragraph [0009]).

Re Claim 17: Vogel discloses if said first truly active region / feature extractor of first frame (33) is not substantially similar / comparator (36) to said second truly active region / feature extractor of second frame (34), indicating a second segment signature / television program (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0020], if it isn't a commercial it is just continuing television program).

As to claim 18, all the limitations are taught by Vogel in the same manner as Vogel taught claims 16 and 17 respectively above.

Although the detector circuit or the feature extractor of Vogel as modified by Linzer's (T,B,L,R) four parameters as discussed in claims 3 and 5 above is not specifically disclosed, as recited in claim 11, as a 4-set detector, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have such a feature of a 4-set detector because Vogel's detector circuit or feature extractor as modified by Linzer will need four detectors to establish the four parameters (T,B,L,R) used in Vogel's comparator as modified by Linzer to indicate the presence of a commercial.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel as modified by Linzer as applied to claims 1, 3, and 5 above, and further in view of McGee et al (US 2003/0117530 A1). The teachings of Vogel as modified by Linzer have been discussed above.

However, Vogel as modified by Linzer fails to disclose or fairly suggest that the comparison is made by using the sum of the absolute value of the difference between parameters of two frames.

McGee, as recited in claim 7, discloses comparing (i) an absolute value of the difference of said T parameters, plus (ii) an absolute value of the difference of said B parameters, plus (iii) an absolute value of the difference of said L parameters, plus (iv) an absolute value of the difference of said R parameters, to the threshold value (see

Fig. 3, equation $D = \sum_{i=1}^N |H_c(i) - H_p(i)|$ under paragraph [0034], this equation teaches

Art Unit: 2609

the sum of the absolute value of the difference between the parameters of two frames being used for the detection of a commercial).

Therefore, in view of McGee, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method, as modified by Linzer by including a sum of the absolute value of the difference between the parameters of the two frames to Vogel's comparator, as modified by Linzer, as the value to be compared to the preset threshold in order to enhance the comparison by calculating a match and detection using a higher order algorithm.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel as modified by Linzer as applied to claims 16-18 above, and further in view of Hua et al (US 2004/0161154 A1). The teachings of Vogel as modified by Linzer have been discussed above.

However, Vogel as modified by Linzer fails to disclose or fairly suggest an implementation of a commercial advance and skip.

Hua, as recited in claim 19, discloses implementing a commercial advance by skipping said first segment signatures; and returning to said second segment signatures (see abstract, lines 3-6, paragraph [0018], lines 10-18, paragraph [0019], the first segment signatures are used to skip commercials and return to the second segment signature or program in order to merge and generate non-commercial blocks of content).

Art Unit: 2609

Therefore, in view of Hua, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method and system, as modified by Linzer by including the capability to skip and advance through segments in order to provide a merge and generation of commercial and non-commercial blocks of content.

12. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel in view of Hua. The teachings of Vogel have been discussed above.

Re Claim 20: Vogel discloses a method / commercial detector for segmenting / signature a video signal into program and commercial segments, comprising the steps of (A) reading a first set of parameters / feature extractor (33) (see Fig. 3, paragraph [0031], lines 1-11, paragraph); (C) reading a second set of parameters / feature extractor (34) (see Fig. 3, paragraph [0031], lines 1-11); (D) comparing / comparator (36) said second set of parameters (33) to said first set of parameters (34) (see Fig. 3, paragraph [0031], lines 1-11, paragraph [0009]); and (E) if said first set of parameters and said second set of parameters are substantially similar / comparator (36), classifying said second segment / signature as a program segment / television program signature (see Fig. 3, paragraph [0031], lines 1-11, paragraphs [0009] and [0020], if they are different an indication of a commercial is made but if it isn't a commercial, it is just a television program).

However, Vogel fails to disclose or fairly suggest that the first and second parameters define a signature for a first and second program segment for claim 20. Also, Vogel fails to disclose or fairly suggest indicating where the active video starts.

Hua, as recited in claim 20, discloses that (A) the first set of parameters define a signature for a first program segment; (B) detecting the end of said first program segment; and (C) the second set of parameters define a signature for a second segment (see abstract, lines 3-6, paragraph [0018], lines 10-18, paragraph [0019], Hua uses segment signatures as the parameters and it is using these segment signatures that detect and define a commercial or a program segment which allow for the further process of merging and generating segments of commercial or non-commercial blocks of content through comparison with threshold criteria).

Hua, as recited in claim 21, discloses said parameters indicate start of active video (see abstract, lines 3-6, paragraph [0018], lines 10-18, paragraph [0019], Hua uses segment signatures as the parameters and it is using these segment signatures that detect and define a start and end of a commercial or a program segment which allow for the further process of merging and generating segments of commercial or non-commercial blocks of content through comparison with threshold criteria).

Therefore, in view of Hua, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Vogel's method and system by replacing Vogel's feature extractor parameters with Hua's signature for a first and second segment parameters in order to provide a merge and generation of commercial and non-commercial blocks of content.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wang discloses an apparatus and a method for preventing automated detection of television commercials; Dow et al discloses a system and method for indexing commercials in a video presentation; Li et al discloses summarization of football video content; Nishitani discloses a commercial detector and commercial skip recorder.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Krasnic whose telephone number is (571) 270-1357. The examiner can normally be reached on Mon-Thur 8:00am-3:00pm and every other Friday 8:00am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Application/Control Number: 10/713,441

Page 19

Art Unit: 2609

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Bernard Krasnic
January 25, 2007

A handwritten signature in black ink, appearing to read 'J. Lee', is positioned above the printed name and title.

JONG SUK LEE
SUPERVISORY PATENT EXAMINER